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Chemical characterization and anti-inflammatory effect of rauvolfian, a pectic polysaccharide of Rauvolfia callus

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Abstract

The pectic polysaccharide named rauvolfian RS was obtained from the dried callus of Rauvolfia serpentina L. by extraction with 0.7% aqueous ammonium oxalate. Crude rauvolfian RS was purified using membrane ultrafiltration to yield the purified rauvolfian RSP in addition to glucan as admixture from the callus, with molecular weights 300 and 100-300 kD, respectively. A peroral pretreatment of mice with the crude and purified samples of rauvolfian (RS and RSP) was found to decrease colonic macroscopic scores, the total area of damage, and tissue myelope roxidase activity in colons as compared with a colitis group. RS and RSP were shown to stimulate production of mucus by colons of the colitis mice. RSP appeared to be an active constituent of the parent RS. The glucan failed to possess anti-inflammatory activity. © 2007 Pleiades Publishing, Ltd.

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Keywords

Anti-inflammatory effect, Callus, Colitis, Pectin, Rauvolfia serpentina